



PTO/SB/08a (07-05)



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Substitute for form 1449, PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (Use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	10/733,847
		Filing Date	12/10/2003
		First Named Inventor	Carr et al.
		Art Unit	1634
		Examiner Name	Lu, Frank Wei Min
		Attorney Docket Number	056754/0124079
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U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
u	P1	US-5459039	10-17-1995	Modrich et al.	
	P2	US-5556750	09-17-1996	Modrich et al.	
	P3	US-5679522	10-12-1997	Modrich et al.	
	P4	US-5702894	12-30-1997	Modrich et al.	
	P5	US-5707806	01-13-1998	Shuber	
	P6	US-5858754	01-12-1999	Modrich et al.	
	P7	US-5861482	01-19-1999	Modrich et al.	
	P8	US-5877280	03-02-1999	Wetmur	
	P9	US-5922539	07-13-1999	Modrich et al.	
	P10	US-6008031	12-28-1999	Modrich et al.	
	P11	US-6365355	04-02-2002	McCutchen-Maloney	
	P12	US-6521427	02-18-2003	Evans	
	P13	US-20030138782-A1	07-24-2003	Evans	
	P14	US-6813513	09-02-2003	Parce et al.	
	P15	US-20030171325-A1	09-11-2003	Gascoyne	
	P16	US-6832841	10-14-2003	Brennan et al.	
	P17	US-20030228602-A1	12-11-2003	Parker et al.	
	P18	US-6870127	12-30-2003	Evans	
	P19	US-6873552	01-08-2004	Frey	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				
	FP1	WO 03/054232 - A2	07-03-2003	Blue Heron Biotechnology, Inc.		
	FP2	EP 1 314 763 - A1	11-22-2001	Stonning BioTechnology GmbH		

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u	NP1	ALEXEYEV, Mikhail F. et al., "Gene synthesis, bacterial expression and purification of the Rickettsia prowazekii ATP/ADP translocase", Biochimica et Biophysica Acta 1419, 299-306 (1999).	✓
	NP2	AMBLARD, Francois et al., "A magnetic manipulator for studying local rheology and micromechanical properties of biological systems", Rev. Sci. Instrum. 67 (3), 818-827 (March 1996).	✓
	NP3	ASSI, Fabiano et al., "Massively parallel adhesion and reactivity measurements using simple and inexpensive magnetic tweezers", J. Appl. Phys., Vol. 92, No. 9, 5584-5586 (1 Nov. 2002).	✓
	NP4	AU, Lo-Chun et al., "Gene synthesis by a LCR-based approach : high level production of Leptin-L54 using synthetic gene in Escherichia coli", Biochemical and Biophysical Research Communications 248, 200-203 (1998).	✓
	NP5	BAEDEKER, Mathias et al., "Overexpression of a designed 2.2kb gene of eukaryotic phenylalanine ammonia-lyase in Escherichia coli", FEBS Letters 457, 57-60 (1999).	✓
	NP6	BEAUCAGE, Sege L. et al., "The Chemical synthesis of DNA/RNA".	✓
	NP7	BEAULIEU, Martin et al., "PCR candidate region mismatch scanning: adaptation to quantitative, high-throughput genotyping", Nucleic Acids Research, Vol. 29, No. 5, 1114-1124 (2001).	✓
	NP8	BISWAS, Indranil et al., "Identification and characterization of a thermostable MutS homolog from Thermus aquaticus", The Journal of Biological Chemistry, Vol. 271, No. 9, 5040-5048, (1 Mar. 1996)	✓
	NP9	BISWAS, Indranil et al., "Interaction of MutS protein with the major and minor grooves of a heteroduplex DNA", The Journal of Biological Chemistry, Vol. 272, No. 20, 13355-13364, (16 May 1997)	✓
	NP10	BJORNSEN, Keith P. et al., "Differential and simultaneous adenosine Di- and Triphosphate binding by MutS", The Journal of Biological Chemistry, Vol. 278, No. 20, 18557-18562, (16 May 2003)	✓
	NP11	CASMIRO, Danilo R. et al., "PCR-based gene synthesis and protein NMR spectroscopy", Structure, Vol. 5, No. 11, 1407-1412 (1997).	✓

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	NP12	CELLO, Jeronimo et al., "Chemical synthesis of poliovirus cDNA : Generation of infectious virus in the absence of natural template", Science, Vol. 297, 1016-1018 (9 Aug. 2002).	<input checked="" type="checkbox"/>
	NP13	CHALMERS, Felicity M. et al., "Scaling up the ligase chain reaction-based approach to gene synthesis", BioTechniques, Vol. 30, No. 2, 249-252 (2001).	<input checked="" type="checkbox"/>
	NP14	CUTLER, David J. et al., "High-throughput variation detection and genotyping using microarrays", Genome Research 11:1913-1925 (2001).	<input checked="" type="checkbox"/>
	NP15	DEAMER, David W. et al., "Characterization of nucleic acids by nanopore analysis", Acc. Chem. Res., Vol. 35, No. 10, 817-825 (2002).	<input checked="" type="checkbox"/>
	NP16	DIETRICH, Rudiger et al., "Gene assembly based on blunt-ended double-stranded DNA-modules", Biotechnology Techniques, Vol. 12, No. 1, 49-54 (Jan. 1998).	<input checked="" type="checkbox"/>
	NP17	EISEN, Jonathan A., "A phylogenomic study of the MutS family of proteins", Nucleic Acids Research, Vol. 26, No. 18, 4291-4300 (1998).	<input checked="" type="checkbox"/>
	NP18	FEDORYAK, Olesya D. et al., "Brominated hydroxyquinoline as a photolabile protecting group with sensitivity to multiphoton excitation", Or. Lett., Vol. 4, No. 20, 3419-3422 (2002).	<input checked="" type="checkbox"/>
	NP19	GALNEDER, R. et al., "Microelectrophoresis of a bilayer-coated silica bead in an optical trap: application to enzymology", Biophysical Journal, Vol. 80, No. 5, 2298-2309 (May 2001).	<input checked="" type="checkbox"/>
	NP20	GAO, Xiaolian et al., "A flexible light-directed DNA chip synthesis gated by deprotection using solution photogenerated acids", Nucleic Acids Research, Vol. 29, No. 22, 4744-4750 (2001).	<input checked="" type="checkbox"/>
	NP21	GARROW, Norbert et al., "Optical tweezing electrophoresis of isolated, highly charged colloidal spheres", Colloids and Surfaces A: Physicochem. Eng. Aspects 195, 227-241 (2001).	<input checked="" type="checkbox"/>
		NP22	GOSSE, Charlie et al., "Magnetic tweezers: micromanipulation and force measurement at the molecular level", Biophysical Journal, Vol. 82, 3314-3329 (June 2002). GOSSE, Charlie et al., "Magnetic tweezers: micromanipulation and force measurement at the molecular level", Biophysical Journal, Vol. 82, 3314-3329 (June 2002).

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u	NP23	HABER, Charbel et al., "Magnetic tweezers for DNA micromanipulation", Rev. Sci. Instrum., Vol. 71, No. 12, 4561-4570 (Dec. 2000).	✓
	NP24	HECKER, Karl H. et al., "Error analysis of chemically synthesized polynucleotides", BioTechniques, Vol. 24, No. 2, 256-260 (1998).	✓
	NP25	HOOVER, David M. et al., "DNAWorks : an automated method for designing oligonucleotides for PCR-based gene synthesis", Nucleic Acids Research, Vol. 30, No. 10 (2002).	✓
	NP26	HOSU, Basarab G. et al., "Magnetic tweezers for intracellular applications", Rev. Sci. Instrum., Vol. 74, No. 9, 4158-4163 (Sept. 2003).	✓
	NP27	HUANG, Hayden et al., "Three-dimensional cellular deformation analysis with a two-photon magnetic manipulator workstation", Biophysical Journal, Vol. 82, No. 4, 2211-2223 (Apr. 2002).	✓
	NP28	JACKSON, Brian A. et al., "Recognition of DNA base mismatches by a rhodium intercalator", J. Am. Chem. Soc., 119, 12986-12987 (1997).	✓
	NP29	KE, Song-Hua et al., "Influence of neighboring base pairs on the stability of single base bulges and base pairs in a DNA fragment", Biochemistry, Vol. 34, 4593-4600 (1995).	✓
	NP30	KELLEY, Shana O. et al., "Single-base mismatch detection based on charge transduction through DNA", Nucleic Acids research, Vol. 27, No. 24, 4830-4837 (1999).	✓
	NP31	KIM, Yang-Gyun et al., "Chimeric restriction endonuclease", Proc. Natl. Acad. Sci., Vol. 91, 883-887 (Feb. 1994).	✓
	NP32	KIM, Yang-Gyun et al., "Site-specific cleavage of DNA-RNA hybrids by zinc finger/FokI cleavage domain fusions", Gene, 203, 43-49 (1997).	✓
✓	NP33	KIM, Yang-Gyun, "The interaction between Z-DNA and the Zab domain of double-stranded RNA adenosine deaminase characterized using fusion nucleases", The Journal of Biological Chemistry, Vol. 274, No. 27, 19081-19086 (1999).	✓

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<i>m</i>	NP34	KOPP, Martin U. et al., "Chemical amplification: continuous-flow PCR on a chip", Science, Vol. 280, 1046-1048 (15 May 1998).	✓
	NP35	LAGALLY, E.T. et al., "Single-molecule DNA amplification and analysis in an integrated microfluidic device", Anal. Chem., 73, 565-570 (2001).	✓
	NP36	LAHUE, R.S. et al., "DNA mismatch correction in a defined system", Science, Vol. 425, No. 4914 160-164 (14 July 1989).	✓
	NP37	LAMBRINAKOS, A. et al., "Reactivity of potassium permanganate and tetraethylammonium chloride with mismatched bases and a simple mutation detection protocol", Nucleic Acids Research, Vol. 27, No. 8, 1866-1874 (1999).	✓
	NP38	LANG, Matthew J. et al., "An automated two-dimensional optical force clamp for single molecule studies", Biophysical Journal, Vol. 83, 491-501 (July 2002).	✓
	NP39	LEE, C.S. et al., "Microelectromagnets for the control of magnetic nanoparticles", Appl. Phys. Lett., Vol. 79, No. 20, 3308-3310 (12 Nov. 2001).	✓
	NP40	LI, Lin et al., "Functional domains in Fok I restriction endonuclease", Proc. Natl. Acad. Sci. USA, Vol. 89, 4275-4279 (May 1992).	✓
	NP41	LIPSHUTZ, Robert J. et al., "High density synthetic oligonucleotide arrays", Nature Genetics Supplement, Vol. 21, 20-24 (Jan. 1999).	✓
	NP42	LISHANSKI, Alla et al., "Mutation detection by mismatch binding protein, MutS, in amplified DNA: application to the cystic fibrosis gene", Proc. Natl. Acad. Sci. USA, Vol. 91, 2674-2678 (March 1994).	✓
	NP43	LU, A.-Lien et al., "Methyl-directed repair of DNA base-pair mismatches in vitro", Proc. Natl. Acad. Sci. USA, Vol. 80, 4639-4643 (Aug. 1983).	✓
✓	NP44	MCGALL, Glenn H. et al., "The efficiency of light-directed synthesis of DNA arrays on glass substrates", J. Am. Chem. Soc., Vol. 119, No. 22, 5081-5090 (4 June 1997).	✓

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	NP45	MULLER, Caroline et al., "Protection and labelling of thymidine by a fluorescent photolabile group", Helvetica Chimica Acta, Vol. 84, 3735-3741 (2001).	<input checked="" type="checkbox"/>
	NP46	NAKATANI, Kazuhiko et al., "Recognition of a single guanine bulge by 2-Acylamino-1,8-naphthyridine", J. Am. Chem. Soc., 122, 2172-2177 (2000).	<input checked="" type="checkbox"/>
	NP47	PELLOIS, Jean P. et al., "Individually addressable parallel peptide synthesis on microchips", Nature Biotechnology, Vol. 20, 922-926 (Sept. 2002).	<input checked="" type="checkbox"/>
	NP48	RUMINY, Philippe et al., "Long-range identification of hepatocyte nuclear factor-3 (FoxA) high and low-affinity binding sites with a chimeric nuclease", J. Mol. Biol., 310, 523-535 (2001).	<input checked="" type="checkbox"/>
	NP49	SACCONI, L. et al., "Three-dimensional magneto-optic trap for micro-object manipulation", Optics Letters, Vol. 26, No. 17, 1359-1361 (1 Sept. 2001).	<input checked="" type="checkbox"/>
	NP50	SCHMALZING, Dieter et al., "Microchip electrophoresis: a method for high-speed SNP detection", Nucleic Acids research, Vol. 28, No. 9 (2000).	<input checked="" type="checkbox"/>
	NP51	SIERZCHALA, Agnieszka B. et al., "Solid-phase oligodeoxynucleotide synthesis : a two-step cycle using peroxy anion deprotection", J. Am. Chem. Soc., Vol. 125, No. 44, 13427-13441 (2003).	<input checked="" type="checkbox"/>
	NP52	SINGH-GASSON, Sangeet et al., "Maskless fabrication of light-directed oligonucleotide microarrays using a digital micromirror array", Nature Biotechnology, Vol. 17, 974-978 (Oct. 1999).	<input checked="" type="checkbox"/>
	NP53	SMITH, Jane et al., "Mutation detection with Muth, MutL, and MutS mismatch repair proteins", Proc. Natl. Acad. Sci. USA, Vol. 93, 4374-4379 (April 1996).	<input checked="" type="checkbox"/>
	NP54	SMITH, Jane et al., "Removal of polymerase-produced mutant sequences from PCR products", Proc. Natl. Acad. Sci. USA, Vol. 94, 6847-6850 (June 1997).	<input checked="" type="checkbox"/>
	NP55	SMITH, Steven B. et al., "Direct mechanical measurements of the elasticity of single DNA molecules using magnetic beads", Science, Vol. 258, 1122-1126 (13 Nov. 1992).	<input checked="" type="checkbox"/>

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Substitute for form 1449B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete If Known</b>	
		Application Number	10/733,847
		Filing Date	12/10/2003
		First Named Inventor	Carr et al.
		Art Unit	1634
		Examiner Name	Lu, Frank
Sheet 7	of 8	Attorney Docket Number 056754/0124079	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
u	NP56	STEMMER, Willem P.C. et al., "Single-step assembly of a gene and entire plasmid from large numbers of oligodeoxynucleotides", Gene, Vol. 164, 49-53 (1995).	✓
	NP57	TANASE, M. et al., "Magnetic trapping of multicomponent nanowires" (25 June 2001).	✓
	NP58	VISSCHER, Koen et al., "Construction of multiple-beam optical traps with nanometer-resolution position sensing", IEEE Journal of Selected Topics in Quantum Electronics, Vol. 2, No. 4, 1066-1076 (Dec. 1996).	✓
	NP59	VOLDMAN, Joel et al., "Holding forces of single-particle dielectrophoretic traps", Biophysical Journal, Vol. 80, No. 1, 531-541 (Jan. 2001).	✓
	NP60	WAH, David A. et al., "Structure of the multimodular endonuclease FokI bound to DNA", Nature, Vol. 388, 97-100 (3 July 1997).	✓
	NP61	WAH, David A. et al., "Structure of FokI has implications for DNA cleavage", Proc. Natl. Acad. Sci. USA, Vol. 95, 10564-10569 (Sept. 1998).	✓
	NP62	WHITEHOUSE, Adrian et al., "Analysis of the mismatch and insertion/deletion binding properties of Thermus thermophilus, HB8, MutS", Biochemical and Biophysical Research Communications, Vol. 233, 834-837 (1997).	✓
	NP63	WIRTZ, Denis, "Direct measurement of the transport properties of a single DNA molecule", Physical Review Letters, Vol. 75, No. 12, 2436-2439 (18 Sept. 1995).	✓
	NP64	WITHERS-MARTINEZ, Christaine et al., "PCR-based gene synthesis as an efficient approach for expression of the A + T-rich malaria genome", Protein Engineering, Vol. 12, No. 12, 1113-1120 (1999).	✓
	NP65	WOOD, Richard D. et al., "Human DNA repair genes", Science, Vol. 291, 1284-1289 (16 Feb. 2001).	✓
	✓	NP66	WU, Xing-Zheng et al., "An improvement of the on-line electrophoretic concentration method for capillary electrophoresis of proteins and experimental factors affecting the concentration effect", Analytical Sciences, Vol. 16, 329-331 (March 2000).

Examiner Signature	<i>[Signature]</i>	Date Considered	6/1/2007
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Sheet	8	of	8

[illegible]

Examiner Signature	<i>[Signature]</i>	Date Considered	6/11/2007
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